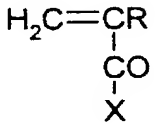
CLAIMS

1. Polymer comprising water-soluble units and units having a temperature of LCST type, said polymer being obtainable by reaction between the reactive sites, firstly of the water-soluble units bearing, before reaction, at least two reactive sites, and secondly of the units with an LCST bearing, before reaction, at least one reactive site, so as to form a covalent bond, said units with an LCST consisting of N-vinylcaprolactam homopolymers or of copolymers derived therefrom, the proportion by mass of the units with an LCST in the polymer being between 5% and 70%.

2. Polymer according to Claim 1, which is in the form of a block polymer comprising water-soluble blocks alternating with blocks with an LCST, or in the form of a grafted polymer whose backbone is formed from water-soluble units and bears grafts with an LCST, this structure possibly being partially crosslinked.

3. Polymer according to either of the preceding claims, in which the water-soluble units, before reaction, are obtained by free-radical polymerization of at least one monomer A chosen, alone or as a mixture, from:

- (meth)acrylic acid ;
- vinyl monomers of formula (Ia) below:



(Ia)

in which:

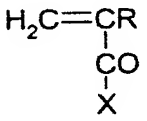
- R is chosen from H, $-CH_3$, $-C_2H_5$ or $-C_3H_7$;
- X is chosen from:

- alkyl oxides of -OR' type in which R' is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, substituted with at least one hydroxyl (-OH); primary amine ($-NH_2$); secondary amine ($-NHR_1$) or tertiary amine ($-NR_1R_2$) group, with R_1 and R_2, independently of each other, representing a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 25 carbon atoms, with the proviso that the sum of the carbon atoms of $R_1 + R_2$ does not exceed 26; a halogen atom (iodine, bromine, chlorine or fluorine);
- groups $-NH_2$, -NHR' and -NR'R" in which R' and R" are, independently of each other, linear or branched, saturated or unsaturated hydrocarbon-based radicals containing 1 to 25 carbon atoms, with the proviso that the total number of carbon atoms of R' + R" does not exceed 26, the said R' and R" optionally being substituted with a hydroxyl (-OH); sulphonic ($-SO_3$); sulphate ($-SO_4$); phosphate ($-PO_4H_2$); primary amine ($-NH_2$); secondary amine ($-NHR_1$), tertiary amine ($-NR_1R_2$) and/or quaternary amine ($-N^+R_1R_2R_3$) group, with R_1, R_2 and R_3 being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 25 carbon atoms, with the proviso that the sum of the carbon atoms of $R_1 + R_2$ does not exceed 26, and that the sum of the carbon atoms of $R_1 + R_2 + R_3$ does not exceed 27;

- maleic anhydride;
- itaconic acid;
- vinyl alcohol of formula $CH_2=CHOH$;
- vinyl acetate of formula $CH_2=CH-OCOCH_3$.

4. Polymer according to Claim 3, in which the water-soluble units, before reaction, are obtained by polymerization also of at least one monomer B chosen, alone or as a mixture, from

- vinyl monomers of formula (Ib) below:



(Ib)

in which:

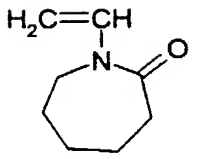
- R is chosen from H, $-CH_3$, $-C_2H_5$ or $-C_3H_7$;
- X is chosen from alkyl oxides of $-OR'$ type in which R' is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, optionally substituted with a sulphonic ($-SO_3^-$), sulphate ($-SO_4^-$), phosphate ($-PO_4H_2$); and/or quaternary amine ($-N^+R_1R_2R_3$) group, with R_1, R_2 and R_3 being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 25 carbon atoms, with the proviso that the sum of the carbon atoms of $R_1 + R_2 + R_3$ does not exceed 27;
- N-vinyllactams such as N-vinylpyrrolidone, N-vinylcaprolactam and N-butyrolactam;
- vinyl ethers of formula $CH_2=CHOR$ in which R is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 25 carbons;

- styrene and its derivatives, especially styrene sulphonate;
- dimethyldiallylammonium chloride;
- vinylacetamide.

5. Polymer according either of Claims 1 and 2, in which the water-soluble units, before reaction, are chosen from:
- water-soluble polyurethanes having, before reaction, at least two reactive sites, especially bearing carboxylic acid functions;
- xanthan gum;
- alginates and derivatives thereof such as propylene glycol alginate;
- cellulose derivatives and especially carboxymethylcellulose, hydroxypropylcellulose, hydroxyethylcellulose and quaternized hydroxyethylcellulose;
- galactomanans and derivatives thereof, such as Konjac gum, guar gum, hydroxypropylguar, hydroxypropylguar modified with sodium methylcarboxylate groups, and hydroxypropyl trimethylammonium guar chloride;
- polyethyleneimine.

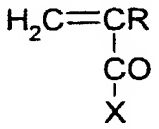
6. Polymer according to one of the preceding claims, in which the water-soluble units have a molar mass of between 5 000 g/mol and 5 000 000 g/mol when they constitute the water-soluble backbone of a grafted polymer; or a molar mass of between 5 000 g/mol and 100 000 g/mol when they constitute a block of a multiblock polymer.

7. Polymer according to one of the preceding claims, in which the units with an LCST consist of N-vinylcaprolactam homopolymers of formula (II) below:


(II)

or of copolymers of N-vinylcaprolactam and:

- of a vinyl monomer of formula (III) below:


(III)

in which:

- R is chosen from H, $-CH_3$, $-C_2H_5$ or $-C_3H_7$; and
- X is chosen from:
  - alkyl oxides of $-OR'$ type in which R' is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons, optionally substituted with at least one halogen atom (iodine, bromine, chlorine or fluorine); a sulphonic ($-SO_3^-$), sulphate ($-SO_4^-$), phosphate ($-PO_4H_2$); hydroxyl ($-OH$); primary amine ($-NH_2$); secondary amine ($-NHR_1$), tertiary amine ($-NR_1R_2$) or quaternary amine ($-N^+R_1R_2R_3$) group with R_1, R_2 and R_3 being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 6 carbon atoms, with the proviso that the sum of the carbon atoms of $R' + R_1 + R_2 + R_3$ does not exceed 7; and
  - groups $-NH_2$, $-NHR'$ and $-NR'R''$ in which R' and R" are, independently of each other, linear or branched, saturated or unsaturated hydrocarbon-based radicals containing 1 to 6 carbon atoms, with the proviso that the total number of carbon atoms of $R' + R''$ does not exceed 7, the said R' and R" optionally being

substituted with a halogen atom (iodine, bromine, chlorine or fluorine); a hydroxyl (-OH); sulphonic ($-SO_3^-$), sulphate ($-SO_4^-$); phosphate ($-PO_4H_2$); primary amine ($-NH_2$); secondary amine ($-NHR_1$), tertiary amine ($-NR_1R_2$) and/or quaternary amine ($-N^+R_1R_2R_3$) group with R_1, R_2 and R_3 being, independently of each other, a linear or branched, saturated or unsaturated hydrocarbon-based radical containing 1 to 6 carbon atoms, with the proviso that the sum of the carbon atoms of $R' + R'' + R_1 + R_2 + R_3$ does not exceed 7;

- maleic anhydride;
- itaconic acid;
- vinyl alcohol of formula $CH_2=CHOH$; vinyl acetate of formula $CH_2=CH-OCOCH_3$;
- a vinyl ether of formula $CH_2=CHOR$ in which R is a linear or branched, saturated or unsaturated hydrocarbon-based radical containing from 1 to 6 carbons;
- styrene or derivatives thereof, especially styrene sulphonate;
- dimethyldiallylammonium chloride; and
- vinylacetamide.

8. Polymer according to one of the preceding claims, in which the molar mass of the units with an LCST is between 1 000 and 500 000 g/mol and especially between 2 000 and 50 000 g/mol.

9. Polymer according to one of the preceding claims, in which the units with an LCST, before reaction, are in the form of N-vinylcaprolactam homopolymers or of amino, especially monoamino, diamino or triamino, derivative copolymers.

10. Polymer according to one of the preceding claims, in which the proportion by mass of the units with an LCST in the final polymer is preferably between 20% and 65%, and particularly between 30% and 60% by weight relative to the final polymer.

11. Polymer according to one of the preceding claims, in which the heat-induced demixing temperature of LCST type of the said units with an LCST is between 5°C and 40°C and preferably 10°C and 35°C, for a concentration by mass in water of 1% by weight of the said units with an LCST.

12. Polymer according to one of the preceding claims, having a solubility in water, at 20°C, of at least 10 g/l and preferably of at least 20 g/l.

13. Polymer according to one of the preceding claims, for producing a thickened, or even gelled, transparent aqueous composition, which has a maximum light transmittance value, irrespective of the wavelength of between 400 and 800 nm, through a sample 1 cm thick, of at least 80% and preferably of at least 85%.

14. Aqueous composition comprising at least one polymer as defined according to one of the preceding claims, and an aqueous phase.

15. Composition according to Claim 14, in which the polymers are present in an amount of between 0.01% and 20% by weight, especially from 0.05% to 15% by weight and in particular from 0.1% to 10% by weight.

16. Composition according to either of Claims 14 and 15, moreover comprising a cosmetically or dermatologically acceptable medium.

17. Cosmetic use of the composition according to any one of Claims 14 to 16, for making up and/or caring for keratin materials.